Marketplace

Advertisements for the next issue must reach the Editor by the 19th July 1993. Ads should be either hand printed or typed on a separate page. Note: no verbal or phone ads will be accepted. Remember to include your name, address and phone number. There is no charge for ads but the NZVRS is not responsible for transactions between members. Address ads to;
Ian Sangster 75 Anawhata Rd. Piha RD1. New Lynn. 1232.

AVAILABLE

Large variety of valve radios and chassis for sale, reasonable prices, all photographed, if you would like to view photos please contact advertiser. Plain unprinted valve cartons small suit EL41 etc. 10c, G.T. suit 6V6 etc. 10c, medium suit 2A5 etc. 12c and large 5Z3 etc. 18c. Prices plus postage. Any quantity available. Paul Burt 44 Hastings St. Christchurch 2. Ph.03-3327157

Plug in R.C.D. (earth leakage circuit breaker) PDL cat.# 951. New, unused. Normal retail $86.65 + GST. Available for $63.50.
Murray Stevenson 82 Waimumu Rd. Massey Auckland. Ph.09-8325414.

Reproduction wood knobs for RCA, AK, Stewart-Warner etc. plain turned type $5.00 each plus p&p. Test equipment: Hickock 752A Dynamic Mutual Conductance Tube Tester, with manual $110, AVO Wide Range signal generator, with manual $40, RCA Voltohmyst VTVM WV77E with manual $20, PACO C20 resistance capacity ratio bridge with manual $35, EICO 147 Signal Tracer as is $15, EICO 425 Oscilloscope as is $20. Bridge Megger test set, hand cranked 250V. Can be used for insulation tests on capacitors, transformers etc. Can also measure very low resistances. $45. Arthur Williams 26 Centre St. Invercargill. Ph.2168985.

Raycophone 1933 63AE console with Weston tuning meter, similar to 62AE (see p62 More Golden Age). $500 or swap cathedral or radiolette 37B. 1938 Pilot H651 5 valve $80, 1938 STC A (see p 72 MGA) $90.
Grahame Lindsey 4182473 or fax 09-3580660.

Classic round EKCO, Philips 'Ham Tin', 634A, 832B, 830A, 834A, Peoples Set, Sonora 'Cadillac', gold Emor globe, Tesla Talisman (black), Fada catalin (orange/red), Addison catalin (maroon/white), crystal sets 1920's including Marconi V2, very rare Gecophone 3 valve smokers cabinet, horn speakers, 1930's Philips car radio (as in August NZVRS Bulletin), Edison Gem phonograph with about 50 boxed cylinders, Doulton 'Parrot' speaker.
Simon Wade "Finchcroft", Broadwater Down, Tunbridge Wells, Kent TN2 5PE England. Ph. 892-543505 home 71-6235530 office.

STC 65A, RCA 20, Zenith 288 5B, Columbus 33, RCA Victor 9T-1 for swap on items in wanted ad. Eddie Maddocks PO box 1035 Rockdale NSW Australia. 2216.

Last of collectors. Battery sets with speakers, cones and horns. Electric cathedrals and two consoles. Sorry no phones. Send 45c for illustrated leaflet. K.D.Mc Ilraith 2/28 Konini St. Riccarton Christchurch.

Small quantity of new and used parts for RCA AR88 receivers, to be sold as one lot. Details from Des Wright 3 Tamatea Drive Snells Beach. Ph.09-4256068.

Philips 352A 9 valve chassis and speaker, Mullard 10 valve 5 band chassis and 12" speaker, Dynatron chassis 9 valve, 5 bands, 4 speakers, Stewart Warner R146X complete. All in good working condition.
Josef Earle 2/38 Bollard Ave Avondale Auckland 7. Ph. 8280855.

Vol.14 No.1 May 1993

N.Z.V.R.S. Bulletin

NEW ZEALAND VINTAGE RADIO SOCIETY

Keith Vaughan at the desk of the Broadcasting Services main recording studio at Shortland Street Auckland circa 1950.

NEW ZEALAND VINTAGE RADIO SOCIETY

A non-profit organisation devoted to the preservation of early radio equipment and associated historical information

PRESIDENT: Murray Stevenson
82 Waimumu Road
Massey, West Auckland
Phone 09-8325414

SECRETARY: Mark Thomson
7 Danbury Drive
Torbay Auckland 1310.
Phone 09-4738388

TREASURER: Bryan Marsh
20 Rimu Road
Mangere Bridge Auckland
1701.
Phone 09-6367712

MEETINGS: Regular Auckland meetings of the NZVRS are held on the third Monday of each month at 7pm.
VENUE: Meeting Room of the Dominion Rd. Methodist Church (at rear of the Church) 426 Dominion Rd. Mt. Eden.

AUCTION SALES of vintage articles are held quarterly in the months of March, June, September and December.

AUCKLAND MEETINGS CALENDAR
May: Phil Stebbing as speaker. Bring and tell- Half restored sets!

June: Auction

July: To be announced.

WELLINGTON AREA MEETINGS
Monthly meetings are held at the Tireti Hall, Te Pene Ave, Titahi Bay at 1 pm on the first Sunday of every month. For further details contact Neville Grubner 2 Peckham Grove. Linden Wellington
Phone. 2326806.

WAIKATO AREA MEETINGS
Regular meetings are held in the Waikato area please contact Eric Carter 3 Haines Tce. Te Kuiti.
Phone 07-878888.

THE NZVRS BULLETIN is published quarterly in the months of Feb, May, August and November.
Contributions from members are always welcome and should be sent to the Editor.
Opinions expressed by writers are not necessarily those of the Society.
BULLETIN EDITOR: Ian Sangster
75 Anawhata Road.
Piha. RD1. New Lynn.
1232

EDITORIAL CONSULTANT: John Stokes
281-C Hillsborough Road.
Mt. Roskill Auckland.1004.

Classified advertisements are accepted from financial members only. See back cover for further details and please observe the conditions as set out.

BACK NUMBERS OF NZVRS BULLETINS

Most issues are still available, though some of the earlier issues are now out of print.
Price is $1 each for numbers up to volume 10 and $2 each each for for issues from volume 10 onwards.
Postage extra in both cases.
Order from John Stokes at address above.

NZVRS LIBRARY
Members are reminded that our NZVRS library contains a good selection of books plus magazines and newsletters of several overseas societies. A list of publications is available from our librarian: Clarry Schollum. 34 Pentland Ave. Mt Eden Auckland.
Phone. 09-6307011.

EDITORIAL

Last weekend I travelled down through the picturesque autumn landscape to attend my first Wanganui Junk Sale. A journey to be recommended as we, deep in the evergreen rainy greenspot belt, see little of the fall colours. It is an occasion to meet all the Wellington and Manawatu stalwarts and engage in little friendly auction room banter and competition.

Whilst inspecting the junk I met George Newlands and was able to confirm that he had been made redundant from Telecom and the eventual fate of the collection of which he was the curator was unsure.

In the 90's climate where costs are trimmed to the bone and those in power abdicate their responsibility to preserve their own heritage, donated in good faith in many cases, I feel we have a role to play as a society. I feel that nationally we should publicise our existance to our local politicians as an alternative repository for the countries technological heritage. With people such as George to advise on curatorial matters a sound case could be made to diperse such archives rather than dump them or lose them overseas. A case in point recently was the dumping of a 1935 Meccano-built mechanical computor entrusted to MOTAT.

RADIO EXHIBITION AND SALE

After much discussion it has been decided to hold another NZVRS exhibition combined with a trading table sale. It will be held on September 18 and 19 at the hall of the Organ Society of New Zealand situated at the crossroads between Hillsborough Road and the end the motorway leading across Mangere Bridge to the airport. A working party will be set up coordinate display items trading tables and advertising. More details will be available in the next Bulletin but keep these dates free.

ROLLY MICHAELIS

Rolly Michaelis, one of our NZVRS members in the USA died on March 24 1993 at his home. Rolly first joined the NZVRS in 1984.

I met Rolly whilst visiting the USA in 1984 and have visited him on several subsequent trips. Rolly was my guide to the fleamarkets, thrift stores and antique stores, his knowlege of these establishments within the Puget Sound area was encyclopaedic. Our tours extended from the south of Tacoma north to Everett. I remember him telling me that he had been going to Midway fleamarket for nine years asking each vendor whether he had any old radios when in response to his request a man disappeared into his van and returned with a AK breadboard covered with chicken feathers. Rest in peace Rolly.

TO THE EDITOR

THE S.S. AWATEA:

When I was living in Reporoa in 1935, I purchased a Courtenay dual wave battery set, operating from a "Dynite" 2 Volt battery and three 45 Volt dry Eveready's. These were inside a tin box fitted with an outlet on the end. While exploring the shortwave band, I picked up the Awatea, very loud and clear at three minutes to six p.m. These words came over the air " You are now listening to the Union Companies liner Awatea enroute from Sydney to Auckland; at precisely 6 o'clock the ships orchestra will play the Blue Danube as the passengers file into the lounge for dinner". Sometimes I would listen to a similar progam, as the ship travelled back to Sydney.

I wonder if any of our members ever picked up this interesting transmission. When in Tunisia, we heard she was sunk off Tunis, the result of a direct hit with a bomb.

Harold Ault. Kawhia.

RADIO LICENSING IN CANADA:

The article on page 14 of the February 1993 issue of the Bulletin entitled "Dire Penalties", concerning the need for a private radio receiving licence, was of interest to me here in Canada, and it prompted me to make some casual enquiries pertaining thereto. These licences appear to have been a requirement in order to legally own and operate a radio receiving set in this country and enforcement of the regulations probably was not "cost-effective" as we say today and therefore it was most likely a form of taxation for the Federal Government. Although licences could be obtained directly from the appropriate government office, radio dealers and service shops could issue them; and no shopkeeper would want to place his customers in the hazardous position of contravening the rules by not asking for the purchase of a licence, would he now?

As far as I could determine at this time, licences were rerquired from about the mid 1920's to the mid 1950's. The fee charged in 1927 was $1.00, raised to $2.00 in 1932 and again to $2.50 in 1939.

The 1927 licence was issued by the Radiotelegraph Branch of the Department of Marine and Fisheries under the Radiotelegraph Act of 1913. In addition to various dire warnings concerning the secrecy of messages, it also contains the following notice "When using a receiver of the regenerative type for the reception of radio-telephone programmes, please avoid increasing regeneration to the point at which the receiver begins to oscillate, otherwise you will cause interference with neighbouring receiving equipments".

In 1938, the licence provided for operation of a receiver "at the address of the licensee" or " in an automobile" which suggests that a person with a home radio and a car radio would need two licences!

This is just the barest outline of the material which I collected.

Jack Rhodes. Victoria, B.C. Canada.

NEW MEMBERS

Lygoe.P.H. Australia	Christie.N. Auckland.	Gill.E.H. Australia.
Grumwald.J.B. Kaitaia	Duxbury.J.S. Christchurch.	McCafferty.W. Auckland.
Smith.K.B. Mangaweka.	Barber.G.L. Christchurch.	Buhite.E. Oregon. USA.

BOBS SWAP MEET

by Ned Matich

On Sunday the 28th of February 1993 a Bring, Buy, Swap and Sell was held at the residence of Bob and Heather Cook at Blockhouse Bay.

This was attended by approximately 20 NZVRS members and some of the general public drifted through during the afternoon. It was pleasing to see some out of town members, Murray Hall and Mark Mimis from Thames, Frits and Leah Willemsen from Hamilton and Chris Hollis from Cambridge.

A wide variety items were available from cathedrals to communication receivers mainly from the collections of Bob Cook, Murray Stevenson, Gary Otter, Mark Mimis and myself as well as several other members. George Millard and Ross Paton had a bit of a problem loading up their cars after purchasing their "bargains" as did Mark Mimus. Doug McDonald provided an excellent coverage of the afternoon's events with his video camera.

I dont think that any of the vendors became wealthy at the end of the day but I felt that it had been a very sociable and hope to see more events of this type in the future. I am sure that all those present will join me in thanking Bob and Heather for providing the cups of tea and coffee, and all that food.

WAIKATO AREA NOTES

by Murray Hall

Our last meeting on the 28th of March was well attended with 14 members present, which included four stalwarts from Auckland. There was very little activity in the buy sell and swap department, due in part to the lack of items offered. Lets hope our next meeting has a bit more action. Come on members, stop hoarding that junk and swap it around. Judging from the noise levels the tongue department was very active. A good day was rounded off with an excellent afternoon tea put on by Leah Willemsen ably assisted by Wilma Hall. Members will be advised of venue for our June meeting in due course.

TREASURERS REPORT

The Financial Report for the year ending 31st March 1993 is now available and as usual shows an excess of income over expenditure. Membership subscriptions stay at $15.00 plus extra for overseas postage. NZVRS members now number 326 including 46 overseas.

SUBSCRIPTIONS

A thank for the 230 odd who have paid. A reminder is enclosed in this Bulletin for those who forgot or cannot make up their minds to stay with the NZVRS.

HINTS

When replacing volume and tone controls fit the wavy spring washers between the control and chassis and not under the nut. This will stop the control from turning in the hole in the chassis.

For those of you who have admired a Bill Farmer restored chassis, the man responsible for Bills electroplating is now, due to the great NZ redundancy scheme, in private practice. If you need a plater who knows an AK from a Philco see Bill Wallace at Otahuhu Electroplaters Ph. 2769689.

A BIT ABOUT REMLER

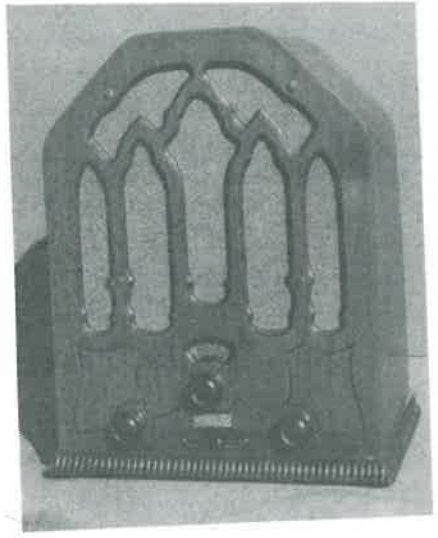
John W.Stokes

Amongst pre-WW2 American West Coast radio manufacturers the Remler Radio Mfg Co, as it was originally known, had the distinction of being one of the very few located in San Francisco; it was also one of the oldest in the west, with origins which can be traced back to 1915. Not a lot has been written about Remler, perhaps because, although the company remained in existence until the late 1940s, it never became a large receiver manufacturer. The story goes like this:

It is known that in 1915 a certain gentleman by the name of Elmer T. Cunningham commenced making 'bootleg' radio tubes in San Francisco[1]. Production of these tubes under the name Audiotron was carried on until 1920 when Cunningham tied up with RCA to form a company known as E.T. Cunningham Inc. In 1931 this firm was taken over by RCA and in 1933 Mr Cunningham became President of the newly formed RCA-Radiotron Co Inc[2]. But that is another story.

The Remler Radio Mfg Co was formed in 1918[3], the name 'Remler' being a word made up by Cunningham spelling his first name, Elmer, backwards and then adding an R on the end. During the early 1920s when E.T. Cunningham was General Manager, the company became well known for the production of such components as honeycomb coils and variometers, not forgetting the famous double-rotor tuning condensers.Remler was also one of the first to market superhet kitsets.

By 1927 Remler had become a division of the Gray & Danielson Mfg Co located at 2101 Bryant St, San Francisco and it appears that Cunningham himself was also on the move at about this time. Complete receivers, as distinct from kitsets,appeared from about 1929. According to Floyd Paul[4], Remler chassis were being made at the Gilfillan Bros San Francisco factory in 1931, though it is not known whether this applied to all models, nor is it known how long this arrangement continued.



As far back as 1935 the Remler Company Ltd (as it was then known) had diversified production by manufacturing specialised items of broadcasting and public address equipment equipment such as condenser microphones, attenuators and studio transcription units and this side of the business was carried on to the late 1940s although Remler never became a large receiver manufacturer.

Very few Remler radios were seen in NZ, one of the earliest being the model 14 'Cameo' a 6-tube TRF midget of 1930.

The set illustrated here is the model 21-3, a 4-tube superhet known as the 'Minuette' which was current in 1932. It was notable for the absence of an IF stage. Switching to the police band was by means of a lever protruding through the front instead of the usual knob controlled switch.

References

1. Saga of the Vacuum Tube, Gerald F.J.Tyne,p.160
2. Radio Engineering, April 1933, p.23
3. see advertisement Electronics, October 1945,p.329
4. Los Angeles Radio Manufacturing (1922-1942) P.81

CHRS Journal Copy - Summer 1998

San Francisco Radio Manufacturing

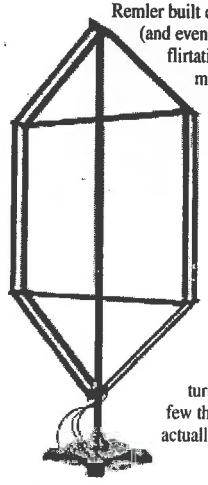
The Remler Company

Remler is best known to collectors for their striking black-and-white plastic radios with little Scottie dog mascots. These deco-inspired case styles has made many Remler sets much sought after radios.

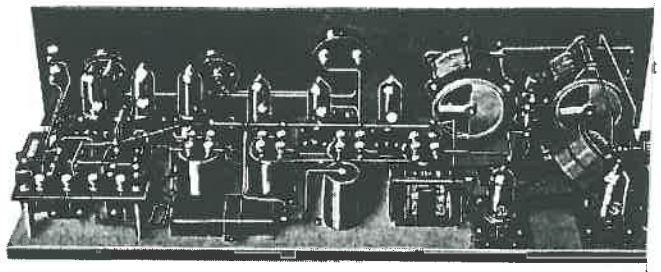
Elmer Cunningham,who had made a mark in the radio world in the manufacturing of Cunningham brand radios tubes, founded Remler in San Francisco in 1918 along with Thomas B. Gray and Ernest G. Danielson. Cunningham came up with the name "Remler" for the new company by spelling his first name backwards and adding an extra "R" for "radio" to the end of it.

They started by making radio parts, sockets, switches, and other small components. By 1922 Cunningham had dropped out and although it's products were still branded "Remler," the company became the Gray and Danielson Mfg. Co. In 1924 they produced the first of their line of high quality super-heterodyne radio recievers.

In 1931 the company officially renamed itself "The Remler Company. Ltd." again. The original factory had been destroyed by fire a year earlier, and they had just built a new plant at 2101 Bryant Street in San Francisco (the building still stands today, and is still labeled "Remler Co. Ltd" across the top) and was making a major marketing effort for their two new sets, the Remler "Cameo" priced at $64.50 and the Remler "Super-Heterodyne" priced at $77.50.



Remler built consumer radios (and even had a quick flirtation with television manufacturing) up until the early 1950s. They had a reputation for high quality sets, and their plastic cabinets were quite handsome. After the war Remler had sold 25,000 sets on consignment to a salesman on the East Coast, but it turned out that only a few thousand were actually paid for, and the bulk of the sets were returned to the factory. Many of the cabinets for the hefty radios didn't fare well in shipping, and the company sustained considerable loses on the sets. After that they left the consumer radio market.



A BIT ABOUT REMLER

John W Stokes

CHRS Journal Vol 22, No.1. 1998

REMLER COMPANY, LTD.

San Francisco Radio Manufacturing

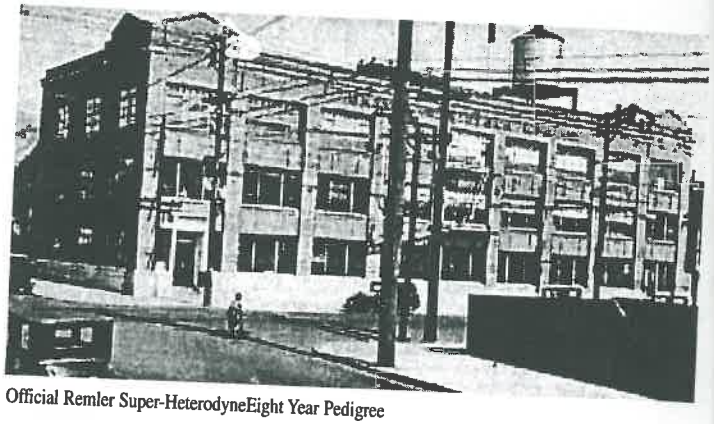
EIGHT years ago EIGHT tubes--EIGHT tubes today.

DEPENDABILITY

Buyers are on the safe and certain ground of Remler Dependability when they purchase.the Cameo or the Super-Heterodyne. Twelve years of radio experience in the manufacture of fine parts, units, kits, and sets, is proof of Remler's ability to make reliable, trouble-proof, value-plus receivers.

Every Remler Set is especially distinguished for its depth, fidelity and brilliance of tone. The audio-system, together with Remler tone-control and a dynamic speaker built to meet rigid specifications combine to make any Remler model a receiver you can trust to give long years of satisfactory service.

In these two receivers, each built to give far more than customary performance, Remler offers exceptional dependability at the price of ordinary assembled sets.



Official Remler Super-HeterodyneEight Year Pedigree

1924 Remler introduces first "super-het" in May. Operated from dry batteries. It cost more than $200.00. Nationwide contest announced to secure ideas for improvements from radio engineers.

1925 The "improved" Remler Super-Heterodyne, using refinements and improvements as submitted by contestants made its appearance late in 1925. The price of the receiver was increased to $230.00.

1926 This year marked the introduction of the Power Amplifier Tube, with greater volume and improved tone quality. Remler issued information to all owners of its earlier models, explaining the adaptation of this tube to the 1924 and 1925 Super-Het.

1927 Remler Super-Heterodyne circuit altered to operate efficiently with the new Screen Grid Tube.

1928 The screen grid tube and "total shielding" incorporated into the 1928 Remler Super-Heterodyne, together with new drum dial and dial light. These innovations are today regarded as commonplace.

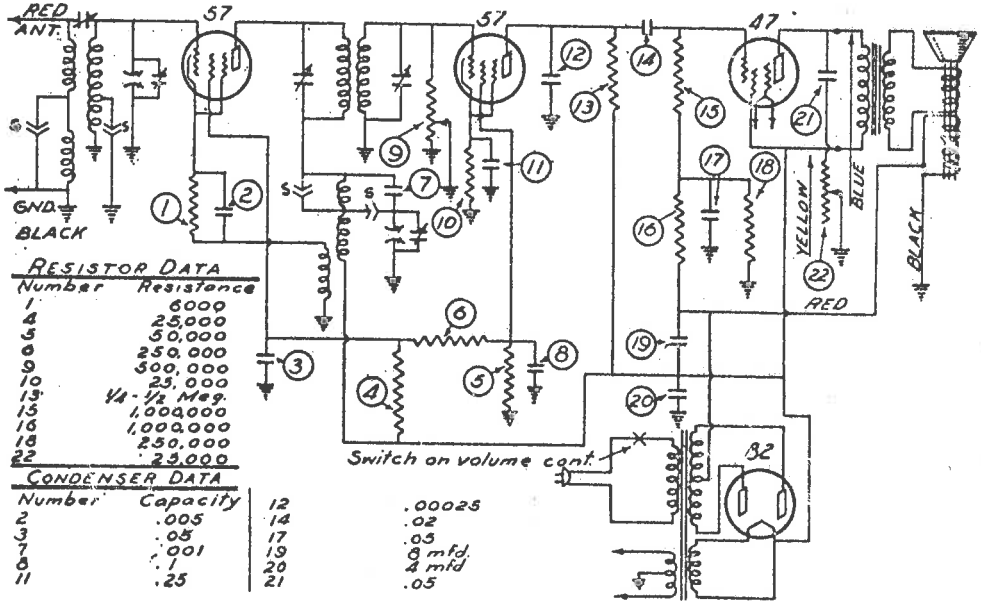
1929 Remler Super-Heterodyne popularity increases. Radio Press states: "unequaled sensitivity, selectivity and quietness of operation." This 1929 Super-Heterodyne cost $300.00 and upwards.

1930 Remler announces the Cameo, a table-sized model. Laboratory work begins on the design of a Super Heterodyne capable of dependable performance when engineered to compact size.

1931 Remler Super-Heterodyne announced at $77.50—complete with 8 tubes and an eight-year pedigree behind it.

A BIT ABOUT REMLER

REMLER COMPANY, LTD.



RESISTOR DATA

Number	Resistance
1	6000
4	25,000
5	50,000
6	250,000
9	500,000
10	25,000
13	½ - ½ Meg.
15	1,000,000
16	1,000,000
18	250,000
22	25,000

CONDENSER DATA

Number	Capacity
2	.005
3	.05
7	.001
8	.1
11	.25
12	.00025
14	.02
17	.03
19	8 mfd
20	4 mfd
21	.05

IF PEAK 250 KC

Model 21-3

C1

CALLING ALL PHONOGRAPH COLLECTORS

Because some NZVRS members have an interest in things phonographic and because, conversely, some phonograph buffs have an interest in old radios, the NZVRS has recently entered into an arrangement with the Vintage Phonographic Society of New Zealand whereby we interchange our respective bulletins on a regular basis and also publicise any information of mutual interest.

Based in Christchurch, the VPS was formed in 1965 ".... for the preservation of Recorded Sound", to quote from their journal The Phonographic Record. Thus it can be seen that members' interests extend beyond just the collecting and restoring of old phonographs; all aspects of talking machine history are covered.

As a service to members the VPS manufactures a wide range of replacement parts which includes such items as springs, horns and winding handles. In addition, such things as steel gramophone needles, transfers, instruction leaflets and posters are available. No less than 73 different items are listed in their latest catalogue.

Membership is open to all and costs $12 per annum. Enquiries to:

Secretary, Vintage Phonographic Society of N.Z. Inc
P.O.Box 5157 Papanui, Christchurch.

ROUNDING UP COLTS

Peter Lankshear

The Bell Colt must be the best known of all New Zealand made receivers and John Stokes covers them well in his "Radio in the Home" books. With production extending over 20 years or more, to obtain the full range of combinations of cabinet colours, chassis types, valve lineups and dial patterns would make a very large and unique collection. They were always popular for bedrooms, flats, kitchens, workshops etc. but with the advent of F.M. demand has fallen off somewhat and it is now possible to pick Colts up from second hand shops for a few dollars.

Some collectors, including the writer, have, in the past regarded the Colt as a bit lightweight, but it is worth consideration, even if only as a significant part of the New Zealand radio industry's history. Decidedly a budget priced little receiver, it was a bit of a paradox. Although the wiring was somewhat "utilitarian" good grade components such Beacon power transformers were used. The earlier models were produced at a time when about the only paper capacitors readily available were New Zealand made Ducon - a type notorious for leakage. Bell avoided this problem by using ceramic types for the critical audio grid coupling capacitors. Again, rather than cheap wafer types, good quality valve sockets were used. Another wise move was to use block multiple filter capacitors well sealed in aluminium cans. These have proved to be very reliable. However, the capacitor mounting position on the chassis prevents a speaker any larger than a Rola 5C being used as a replacement.

Because of the generally good quality components and its simplicity, the Colt has proved to be pretty reliable, but invariably, failures will occur. If the set is completely dead, look first at the speaker transformer. Chances are that the primary winding will be open. Check the 1k and 2.2k resistors situated around the filter block. If they are carbon types, they can go high, as do the 22k I.F. screen and mixer dropping resistor and the 150k audio anode resistor. There is one paper capacitor that I replace as a matter of course. This is the A.G.C. line 0.05mfd bypass connected to the 1st I.F. transformer.

Valves, with the exception of the EBC41 or EBC81 diode triodes, don't give much trouble. For some reason these two can be a problem. The EBC41 appears to be operating satisfactorarily, but is sometimes the source of audio distortion. This is not such a problem with EBC81 valves, but these do at times seem to lose emission.

The photographs show three of the less common examples of the Colt. The wooden case was an optional extra for a while and the set illustrated uses the Rimlock series of valves except for the mixer which is the later - and excellent - Noval based ECH81.

At first glance, the second receiver looks like a standard vanilla flavoured Colt, but on a close inspection, the label is seen to be not *Bell* but ROLAX. John Stokes lists the Rolax brand name as being that of the firm of Saddeley, Wells Ltd. who in this instance must have contracted Bell to make a production run. Valves used are all Rimlocks, indicating that it dates from the 1950's.

The third example is of a later generation with only three valves, all dual function, plus a selenium rectifier, and uses permeability tuning, rather than a tuning capacitor. This type of tuning, controlled by varying the positions of ferrite slugs in the coils, was popular in car radios, but less common in domestic receivers. I seem to recall these tuners being advertised by Philips in the late 1960's.

Another collectable Colt, but not illustrated, is the final, transistorised version. These are readily recognised by both their lightness and their being fitted with a fibreboard back.

Finally, when Colt hunting, be alert for out of sight cracks in cabinets which are brittle and don't always survive a fall unscathed. And another possible trap which can be the result of cabinet damage, is to find Colt chassis in DRECO'S LA GLORIA and PHILCO plastic cabinets, which they fit perfectly.

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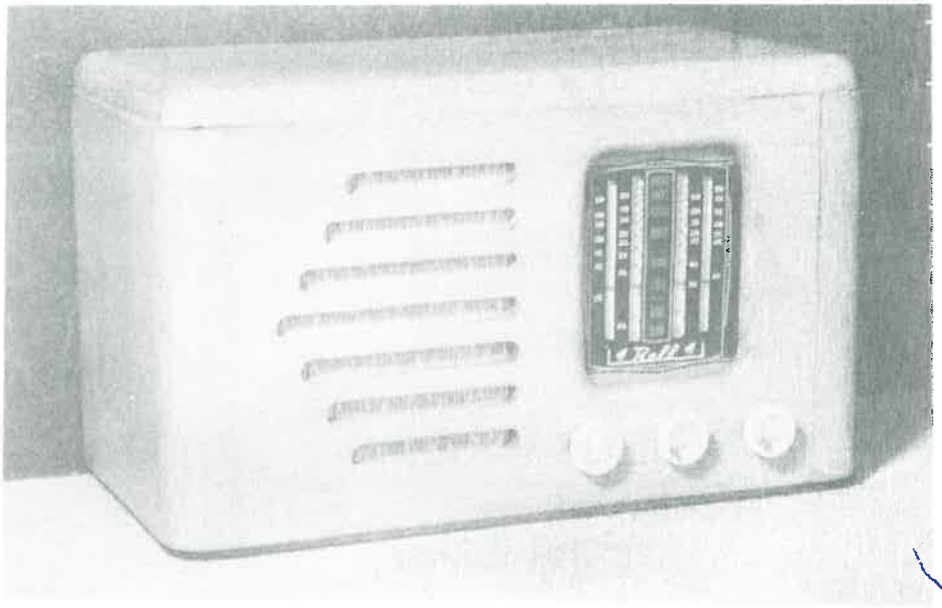
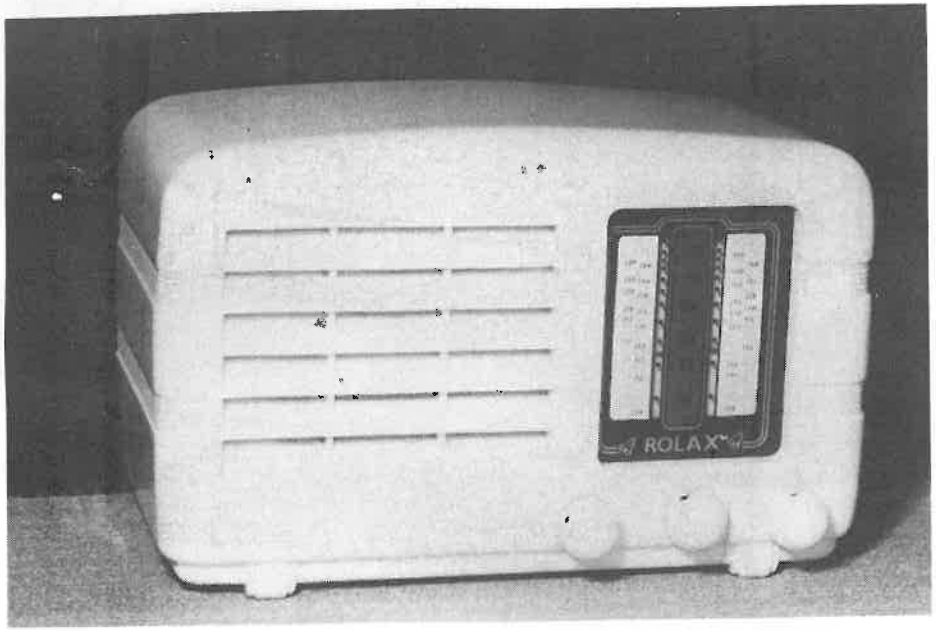
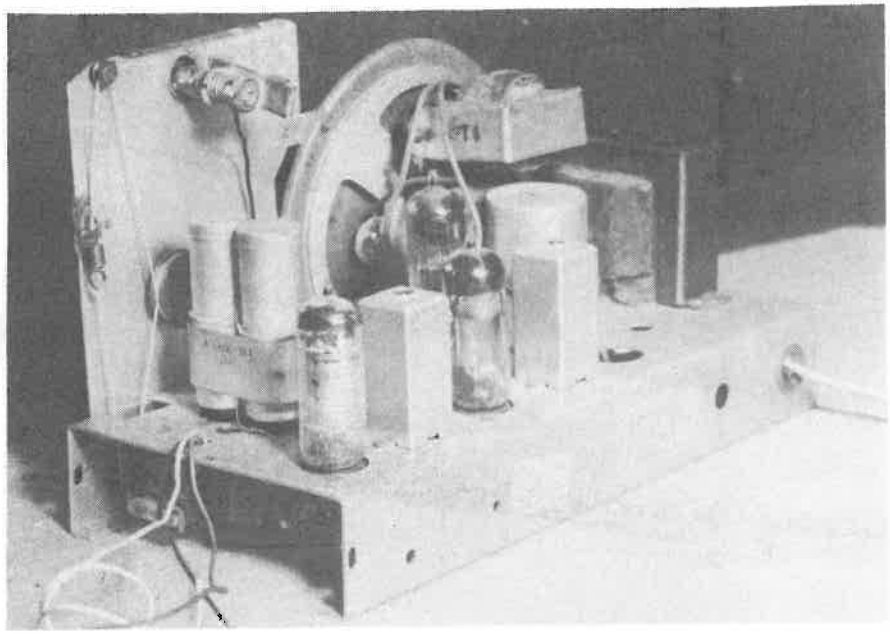


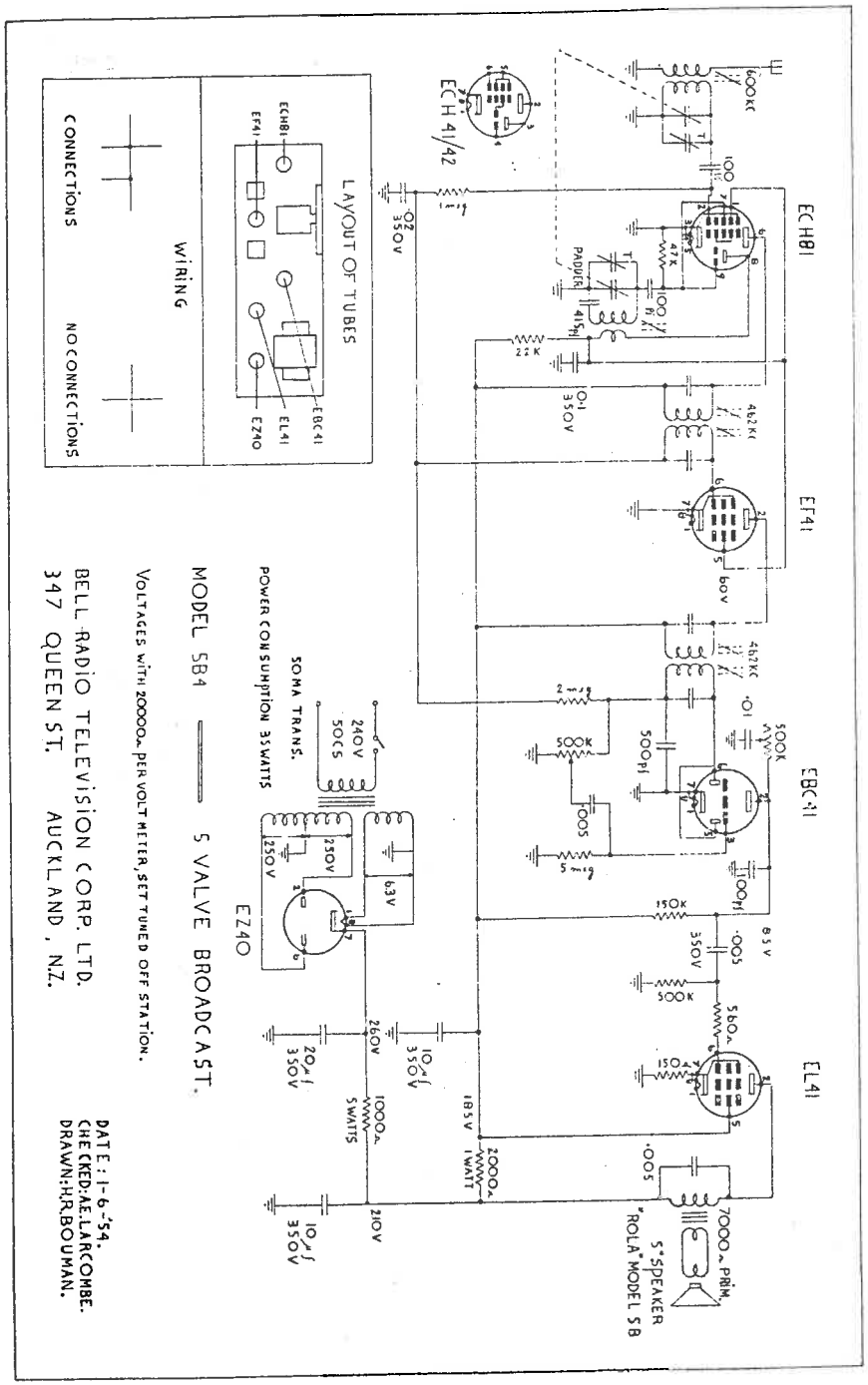
1/ The oak cabinet option was unusual in that it was made of solid timber rather than veneered plywood.



2/ When a Bell is not a Bell. This version was standard except for the Rolax label on the dial.



3/ Wot, no tuning capacitor? Externally, this 3 valve late model Colt is standard, but it uses permeability tuning.



VI C3

AIR CELLS AND AIR CELL TUBES

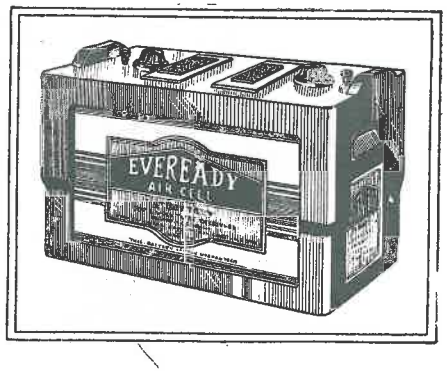
John W. Stokes

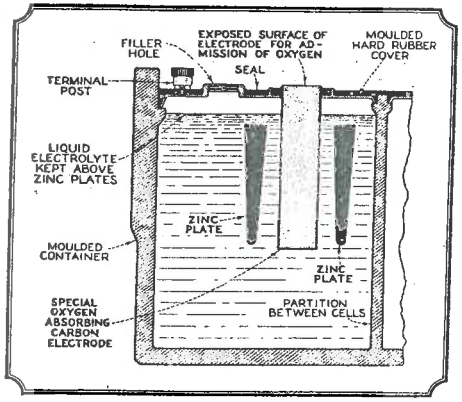
The introduction of the so-called 'All Electric' receiver in the U.S. from 1927 onwards resulted in the radio industry's efforts being concentrated on producing this revolutionary type of radio to the extent that further battery set development initially languished. However, by the end of 1930 two parallel developments did something make up for this neglect; these were the introduction of a line of 2-volt low drain tubes and the invention and marketing of by the National Carbon Company of a special primary battery known as the Eveready Air Cell.

In its original form this battery consisted of two series connected cells having an output voltage of 2.5 volts and fitted into a container measuring 13"x 10"x 7" high and weighing 25 lbs before being filled with 6 quarts of water. In use the battery required no attention apart from occasional topping up with water.

Although fundamentally a zinc-carbon cell it did not contain a chemical depolariser as used in the ordinary dry cell, but instead the positive (carbon) electrode drew oxygen directly from the air for this purpose. This electrode was in the form of a block or slab of a special porous carbon which protruded slightly above the top of the case to allow contact with the surrounding air. The electrolyte was a solution of sodium hydroxide (caustic soda) so that the Air Cell could have been described as an alkaline cell, though it never was. An unusual feature of the cell's internal construction was the large amount of space below the electrodes to allow dissolved sodium zincate to sink to the bottom (See drawing).

A feature of the Air Cell was its ability to maintain a comparitively steady output voltage during its lifetime of approximately 1000 hours. However, it was vitally important not to overload it by even a small amount, otherwise an irreversable reaction occurred which ruined the battery. With an output of 2.5 volts it was necessary to provide a suitable fixed resistor to drop the voltage to the required two volts. Later on special voltage regulator tubes were developed which allowed a receiver to operate from supply voltages of 2, 2.5 or 3 volts, depending on the type of battery being used.



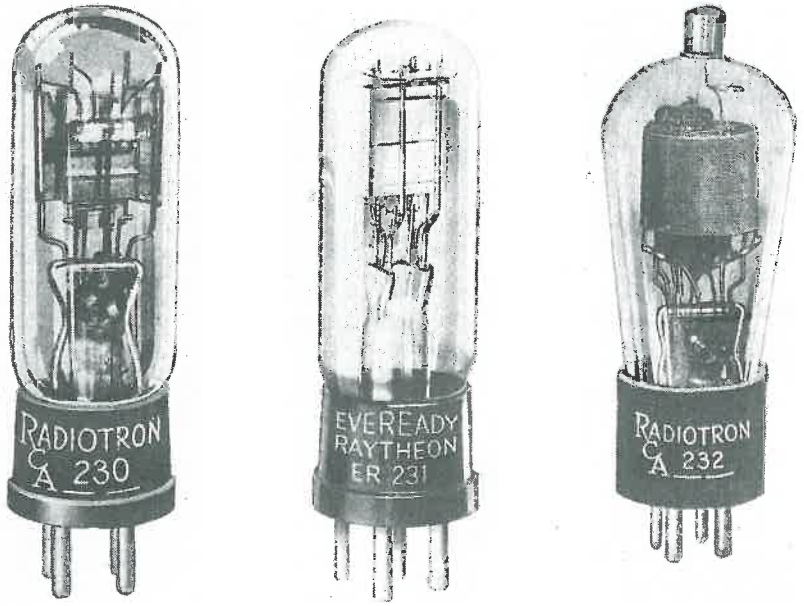


Air Cell Tubes

Turning now to what were often referred to as "Air Cell" tubes, the initial release, in June 1930, consisted of but three types - a general purpose triode, type 230, a power output triode, type 231 and a sharp cut-off tetrode, type 232. They were the first American 2-volt battery tubes and with these three types the manufacturers of the first Air Cell receivers had to be content. In July 1931 the range was increased by the addition of an output pentode, type 233, and in March 1932 a variable-mu RF pentode, type 234, appeared.

In deciding upon a filament voltage of two volts for this new series of tubes their manufacturers obviously intended them to be operated from a 2-volt lead-acid rechargeable (storage) battery and as a result suitable batteries then became available in the U.S. However, for those rural Americans who had no way of getting batteries recharged, Air Cell operation offered a welcome alternative to using expensive dry-cell 'A' batteries. Eventually, Air Cell batteries faded from the scene and after 1942 were no longer being produced* for domestic use

The Air Cell battery was virtually unknown outside the U.S., but for the record were listed by the Electric Lamphouse Ltd in their 1938 and 1939 catalogues. As far as is known, no N.Z. 2-volt battery sets were ever specifically intended for Air Cell operation.



The First Three

Notice how the two triodes, types '30 and '31, were closely patterned on the ealier UX-199 in the matter of bulb dimensions and base styling. Later issues used tapered S-12 bulbs and finally shouldered ST-12 bulbs.

* PML some were in use for industrial purposes up to the 1980's

MISTAKES IN AVO VALVE DATA MANUAL. These nearly wrecked my meter – save yours !

In the AVO valve data manuals there are the few inevitable mistakes in roller selector settings and electrode voltages, most of which are prevented from damaging the valve or meter by the tripping of the overload relay which monitors the relative values of anode and screen current. However there is a serious mistake in the roller selector settings in the data manuals of the early 1970's (editions 18,19,20,21 and 22) which is a trap for the unsuspecting and which can almost wreck the meter movement of your VCM (Valve characteristic meter).

The wrong settings apply to the testing of the miniature 9 pin rectifiers EZ80 and EZ81 and are shown in the valve manuals as 6 and 7 on the anodes which correspond to A_1 and A_2 if you look at the letters underneath the numbers on the roller selector. The correct figures are 8 and 9 which correspond to D_1 and D_2. If you test diodes (rectifiers) on roller positions 6 and 7 then you are testing them as multielectrode valves except that there is neither grid control nor anode current limiting. The anode voltage applied to the valve will be that used in one of your previous valve tests – probably 250 volts, which is much higher than the test voltage applied when using the D_1 and D_2 positions (8 and 9) of the roller selector. In the VCM's I and II the meter selector switch serves two functions depending on whether you are testing multielectrode valves or diodes. For instance the same switch position represents a rectifier test current of 30mA (as for an EZ80) when you are using settings 8 and 9 on the roller selector, and an anode current of 2.5mA when you are using settings 6 and 7 of the roller selector. If you apply a steady DC voltage of 250 volts to a rectifier valve in the forward direction then the current is going to be alot more than 2.5mA.

If the roller selector is set correctly for a diode or rectifier (8 and 9) then there is no deflection on the meter as you switch through the TEST position of the circuit selector. However if the settings are wrong (6 and 7) then as soon as you switch to the TEST position the meter needle flies over to full scale and is pinned hard against the stops, and the initial force can be sufficient to make a straight pointer into an S – shape.

It is worth checking your data manual, and if it shows 6 and 7 for the roller selector for the EZ80 and 81 then cross it out and write in the correct figures, i.e. 8 and 9. With practise you will recognise the pattern of settings,

for instance an 80 rectifier has a setting of 28930000, and a 5Y3GT has a setting of 020 809 030, etc, so if you see a rectifier with roller selector settings of 6 and 7 then you will know that there must be a mistake in the data manual.

The S-shape syndrome happened to me about 12 years ago (and to Bill Farmer just recently) and at that time I wrote to AVO and later went through the entire manual and compiled nearly 10 pages of corrections which they incorporated into edition 23 of 1981. As a token of appreciation they sent me two copies of edition 23 which were selling here for about $100 each. If any members would like the list I can supply a photocopy (send me a stamped addressed envelope) or I will give it to Gordon for the newsletter if there is sufficient interest.

One worthwhile modification to the Mks I and II is to fit a silicon diode across the meter terminals, in the forward, i.e. conducting, direction which limits the volt drop across the meter to about half a volt. Rectifier diodes out of the old black and white TV's are quite suitable. It might be expected that germanium diodes such as the OA85 would give better protection because of their lower forward volt drop but in practise it is too low and introduces non linearity in the meter reading at the top end of the scale, for instance a reading that should be 90mA drops to about 80mA which is unacceptable.

The AVO valve characteristic meter is an item of professional equipment. It has been described as the Rolls-Royce of valve testers, and like the Rolls-Royce it needs to be driver with due care and attention.

Don Beswick. Feb 1993.

This article, first published in the Wellington Vintage Radio Notes in February 1993 is reproduced here with Don Beswicks permission. Don asked me to add that the list of corrections mentioned will be delayed for a couple of months. Editor.

C1

WITH THE COLLECTORS (16)... Murray Hall.

Murray Hall began his radio collecting in 1981, during a visit to Napier on 50th anniversary of the Napier earthquake, he saw a Neutrodyne battery set on display in auction house window. This triggered a desire to find such a set or the parts to build a duplicate. I wonder if we have a member who will own up to placing that set in the window and starting Murray on the slippery slope. The collection began concentrated on 1920's sets but on retiring to Thames and anticipating a dearth of such items in the area the cutoff point was raised to 1935. Murray now takes a healthy interest in cathedral and midget sets and has amassed some 90 items and I can testify to the hospitality displayed to the travelling collector by Murray and Wilma. Wilma has a fine collection of early irons which complement and widen the interest of a visit to Thames.

author s/b identified

M3

PACK AND SHIP RADIOS?

By Bill Moore. USA.

The do's and don'ts of how to protect the collectable from the inevitable, and ensure a good deliverable!

As a fellow collector, you should take the following remarks strictly for face value and content. Color (or is it Colour?) seems to flow into my thoughts quite easily, so in the interests of maintaining attention and saving a few trees I have shortened and sweetened my statements. I will, in the next few paragraphs, relate packing and shipping experience acquired over the last 20 years as a domestic collector, and the last 10 both domestic and international. Never content with the offerings at home, I've roamed the radio world looking for the set to fulfill my interest. This desire has privileged me to quickly learn the ups and downs of economical overseas and domestic transport.

I have used many different transportation systems over the years from air to surface to postal to private carrier to expensive to outrageously expensive. No overseas carriers are reasonable. They are all expensive. Here in the states we have a few domestic carriers that are inexpensive for the basic service. Although, as the saying goes "you get what you pay for", thus for a rare or expensive item air service would be best.

Back on the farm dad used to say "There are two ways to learn son, the hard way: from experience, and the easy way: from someone elses experience". Unfortunately for some stubborn reason I always seem to end up learning the hard knocks by personal experience. This bit of truth goes for packing and shipping. Enough jabber, lets cut to the quick of the matter.

Rule 1: Every radio is unique and requires its own unique packing approach. You must thoroughly consider the transport task at hand and how to get the item from point A to point B with the least probability of damage.

Rule 2: Assume the worst, face the reality of the situation, dont hope or assume that the set will be treated with care. Most likely it wont and if you haven't done your job, it will be damaged or destroyed. If the set is a rare valuable item send it by a carrier suitable to the fragility and value of the set, dont skimp. Also consider the rule of thumb: the faster the transportation the less likely an item will be damaged and in the converse, the longer the transport, the more likely severe damage will result.

Rule 3: If an item is too large to enable packing in one box with sufficient space to include packing materials, break the item down into smaller parts. A chassis and speaker removed from a cabinet that is marginal in size does not buy you any size benefit, but it will give your cabinet a much better chance of survival, due to a decrease in mass. The internal mass shifting inside a cabinet has been the culprit in most cases of cabinet damage.

Rule 4: Preparing shipment of sets left together (chassis, cabinet and or speaker). This should only be done with solid wooden sets!

A. Ensure chassis and speaker are securely attached which includes lock washers

B. Remove knobs, fragile bezels and trim. Ship these separately.

C. Rotate tuning capacitor to the fully closed position. This prevents damage from flying parts.

D. Use tightly wadded newsprint to completely fill the spaces inside the

cabinet. This will save tons of grief, should something come loose. Tubes or valves need not be removed if this is done. Do not use Styrofoam peanuts for this.

E. Place the completed package in a box that just makes a snug fit with the radio. If the set is going overseas place it in a plastic bag to prevent possible humidity damage.

Rule 5: Bakelite sets should never be shipped as a unit. Always separate chassis, speaker and cabinet. Bakelite will not handle the stress that wood can and cannot be repaired to original as wood.

Rule 6: Never use loose fill packing such as Styrofoam peanuts. Bubble wrap is my first choice, with soft foam sheets my next. Hard foam is not adequate. Wadded newsprint is heavy but a preferable choice to hard foam. The newsprint must be tightly wadded to be effective.

Rule 7: Use the heaviest boxes available. Also, if you have to use thin packing, layers of cardboard work very well. It is dense but provides the best protection for limited space.

Rule 8: Always double box if possible. Construct the inside box if you have to, using tape and glue.

Rule 9: Insure more than adequately. Money is not an exact substitute for a rare collectable, but it can help locate another.

Rule 10: PRAY.

Rule 11: Pray double for overseas surface shipments. These are the longest and toughest to pack for.

In summation and conclusion of this lengthy preach, remember this motto - pack to preserve, and preserve to provide, that bit of history radios have kindly contrived, for with each smashed set the postman hands over, so goes more heritage lost forever.

I hope this portion of common sense will help to save a rare Pilot radio someday.

AVAILABLE

Miraco Super 6 battery set. Airzone 3 valve 1927 battery set. Crosley 57 Pal console. Crosley New Buddy cabinet. Majestic 461 upright mantel. A.K. E speaker. Rola 20 cathedral speaker. RCA 106 tapestry floor speaker. Tower cone speaker frame. Rare collector valves. Enquire.
Dieter Bardenheier. 50A Park Rd. Titirangi Auckland 7. Ph.8177268.

WANTED

Cabinet for Philco 70. Barry Houston 46 Croydon St. Christchurch.Ph 03-3324730

Ex broadcasting turntable and pickup arm or similar to play 78 rpm and microgroove recordings. Kieth Hallberg 6 Seifert St. Hamilton. Ph. 07-8492313.

Circuit for Army type CT436 oscilloscope made by Hartley Elecromotives UK in 1965. Eric Kirby 52 Whitaker St. Tauranga. 3001.

5 pin UX wafer valve sockets. Up to half a dozen needed. Ideally, mounting holes at 42 to 44mm centres.
Bob Gilbert, 3 Lyttelton Street Lincoln 8152. Ph. 03-3252834.

Oblong name badge for RCA AR77 receiver.
Des Wright. 3 Tamatea Drive Snells Beach. Ph. 09-4256068.

Early Philips and Telefunken radios and extension speakers. Will pay or swap for items in available list. Eddie Maddocks PO box 1035 Rockdale NSW Australia 2216.

Radiolettes - C87, Empire State and 38 . Prefer ivory and green. Swap for sets in available list. Also want Healing 'scales', Astor Mickey, Astor GS (all colours), Philitone speakers. Simon Wade address in available ad.

Atwater Kent 708 cabinet and speaker. Ian Sangster 75 Anawhata Rd. Piha RD1. Auckland. Ph.09-8149597.

Dial glass for American Bosch 660C (round). Dial glass for PYE Cambridge International table model PE80 21½" x 7½" (oblong). Dial scale (round), escutcheon, knob and pointer for Skyscraper BAU. Atwater Kent compact (see p 153 More Golden Age) or console. Grahame Lindsey Ph.4182473 fax 09-3580660.

Circuit diagram for GEC BC5542. One OP41 valve (EKCO). Mains transformer for Columbus 91. Craig Warner HMNZS Waikato c/- Overseas Branch CPO Auckland.

Glass dials for Columbus 90 and 91. Cabinet for Columbus 301 portable and set of knobs for Columbus 565C (like AWA) bakelite.
(Des) D.J.Smith 156 Rangitoto Rd. Papatoetoe. Auckland. Ph. 2783541.

VHF Eddystone 770R communication receiver, 19 to 165 mHz.
Bryan Marsh. 20 Rimu Rd. Mangere Bridge. Auckland. Ph. 6367712.

Radio & Electronics (R & E NZ) magazines for Sept, Nov, Dec 1946; March '47; May '50; March '53; Jan, March '54. Lamphouse Annuals for 1937, 1941. Have others (1940's) for trade. Arthur Williams 26 Centre St Invercargill Ph2168985

Information on three-pin plugs. Does anyone know who made the plugs for "Grover", "Neeco", "Sturdee", "Robat", Radio Corp (2 types) and the plug with c moulded on it? Information on the first "Titegrip" plugs, old catalogues and pricelists. Murray Stevenson 82 Waimumu Rd. Massey. Auckland. Ph.09-8325414.

Two decorative diecast corner pieces or case less lid in good order for Crosley 71A tin box radio. Dynacone speaker to suit this radio.
H.J.Holmes P.O. box 10038 Te Rapa. Phone 07-8493794.

AWA Radiolettes, any model colour or condition or parts for the same. Astor Mickey Mouse. Dieter Bardenheier 50A Park Rd. Titirangi Auckland 7. Ph.8177268